

## **REMARKS**

### ***Double Patenting***

Claim 6 is rejected for double patenting under 35 USC §101 over claim 1 of U.S. Patent No. 6,732,867. Claim 6 is deleted herein thereby mooting this rejection. Reconsideration and withdrawal of the rejection of claim 6 under 35 USC §101 are thus earnestly solicited.

Claims 1-5 and 7 are rejected over claims 1-6 of U.S. Patent No. 6,732,867 under the judicially created doctrine of obviousness type double patenting. Transmitted herewith is a terminal disclaimer in accordance with 37 CFR 1.321(c) disclaiming that portion of any patent issuing herefrom that extends beyond the term of the '867 patent thereby overcoming this rejection. Reconsideration and withdrawal of the rejection of claims 1-5 and 7 under the judicially created doctrine of obviousness type double patenting are thus earnestly solicited.

### ***Claim Rejections - 35 USC §102***

Claims 1-5 and 7 are rejected under 35 USC §102(b) for allegedly being anticipated by U.S. Patent No. 4,584,097 to Fu ("Fu"). Specifically, the Office Action contends that Fu discloses the use of a hydrocarboxy carbonyl thionocarbamate in which the hydrocarbonyl group attached to the oxycarbonyl can be, among other things, a C1-C6 alkyl and the hydrocarbonyl group attached to the oxythiono group can be among other things, a C1-C6 alkyl. Further, the Office Action contends that since, claim 1 recites N-butoxycarbonyl -O-butylthionocarbamate and that the specification asserts that this includes isomers thereof, the terms buto and butyl are interpreted as a nonspecific C4 and since C1-C6 includes C4, the claims are anticipated. This rejection is hereby traversed.

Even though the compound in the method claimed in claims 1-5 and 7 may be encompassed by the broad generic disclosure of Fu, the generic formula of Fu encompasses a very large number of compounds and Fu does not teach or suggest the selection of the present compound from the larger group. Moreover, if Fu is to be construed as teaching anything about the broad general class of compounds disclosed therein, it specifically teaches a class of compounds wherein the hydrocarbonyl group is selected from ethyl, isopropyl or phenyl (Fu, col. 6, lines 11-12). While butyl could be the hydrocarbonyl group attached to the oxythiono group in Fu, it would have had to be selected from a preferred group of 14 members within a larger disclosed hydrocarbonyl group having from 1 to 8, not 6, carbons (Fu, col. 6, lines 13-17). This disclosure in Fu would therefore not sufficiently describe the claimed compound to support a rejection under 35 USC §102(b). See In re Petering and Fall, 133 USPQ 275, 301 F.2d 676 (CCPA 1962).

Moreover, a chemical subgenus is not anticipated by the disclosure of a generic chemical structure that encompasses more than 20 species. See In re Petering and Fall, 133 USPQ 275, 301 F.2d 676 (CCPA 1962). In re Ruschig, 343 F.2d 965 (CCPA 1965); In re Kalm, 378 F.2d 959, 963 (CCPA 1967); In re Schaumann, 572 F.2d 312 (CCPA 1978); see also MPEP §2131.02.

In Ruschig, the PTO rejected Ruschig's claims to a chemical subgenus as being anticipated by three prior art disclosures of generic chemical structures encompassing the claimed subgenus. *Id.* at 973-974. The generic chemical structure in one of the references encompassed 130 chemical species; the other two encompassed 1 and 259 species, respectively. *Id.* at 974-975. The PTO based its rejection on In re Petering, a case in which the CCPA upheld an anticipation rejection on the basis of a reference disclosing a generic chemical structure which encompassed 20 species. In re Petering, 301 F.2d 676 (CCPA 1962).

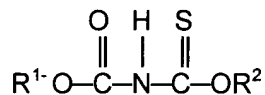
The CCPA reversed the PTO's rejection of Ruschig's claims because "we do not find the present case to be of the type we had before us in Petering." In re Ruschig at 974. The CCPA specifically noted that the generic chemical structures in the cited references encompassed 130 or more chemical species. *Id.* at 974-975. In a subsequent case involving an anticipation rejection over a generic chemical structure representing only seven species the CCPA followed Petering. In re Schaumann, 572 F.2d 312, 314 (CPA 1978). However, in a another case involving an anticipation rejection over a generic chemical structure representing more than 20 species, the CCPA again reversed the PTO, specifically citing Ruschig and again declining to follow Petering. In re Kalm, 378 F.2d 959, 963 (CCPA 1967). The pattern that emerges from the case law is summarized in Table 1 below and shows that a generic chemical structure that represents more than 20 chemical species does not anticipate those species.

Table 1

Case	No. species encompassed by genus	Result
<i>In re Schaumann</i>	7	Anticipated
<i>In re Petering</i>	20	Anticipated
<i>In re Kalm</i>	>20*	Novel, Unobvious
<i>In re Ruschig</i>	130	Novel, Unobvious

\*Number not calculated but said to be "far greater" than 20. *In re Kalm* at 963.

Turning to the facts of the present application, Fu at column 5, lines 50-53 discloses the following generic chemical structure which encompasses far more than 20 species:



Fu specifically discloses at column 6, lines 14-18 that R<sup>2</sup> is generic to at least the following fourteen C1-8 alkyl groups, methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, n-amyl, isoamyl, n-hexyl, isohexyl, heptyl, n-octyl and 2-ethylhexyl. Applicants note that R<sup>1</sup> (C1-6 alkyl) is generic to eleven of the fourteen specifically disclosed species i.e., all but heptyl, n-octyl and 2-ethylhexyl. Since Fu indicates that R<sup>1</sup> is also generic to any R<sup>1</sup> is therefore generic to at least twelve groups (aryl, methyl, ethyl n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, n-amyl, isoamyl, n-hexyl, and isohexyl).

The generic chemical structure of Fu, with the preferred R<sup>1</sup> and R<sup>2</sup> groups referred to by the Office, thus encompasses at least 12 x 14 = 168 chemical species. This number is far higher than 20, and higher than the 130 species specifically found by the CCPA to be not anticipatory in Ruschig.

In short, when evaluating the art to determine if the disclosure therein of a generic chemical structure encompasses a later claimed subgenus, the question to ask is whether or not the broad generic structure discloses, hence anticipates, every possible species thereunder. In other words, the broad generic structure either anticipates every species thereunder or it does not anticipate any species thereunder. The case law cited (In re Petering, etc.) offers guidance as to how large (or small) the number of species encompassed by the broad generic genus has to be before it does (or does not). So according to *In re Petering*, if a generic chemical structure encompasses 20 or less species, it anticipates every one of those species and according to *In re Kalm*, if a generic chemical structure encompasses more than 20 species, it does not anticipate any of those species. The present invention is therefore not anticipated by the disclosure of Fu.

Applicants therefore respectfully request reconsideration and withdrawal of the rejection of claims 1-5 and 7 under 35 USC §102(b) as being anticipated by Fu.

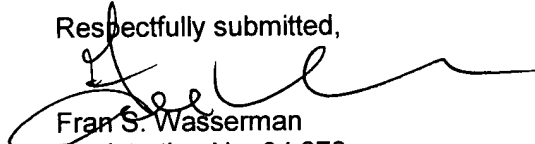
Claim 6 is rejected under 35 USC §103 for allegedly being obvious over Fu. Claim 6 is canceled herein thereby mooting this rejection. Reconsideration and withdrawal of the rejection of claim 6 under 35 USC §103 are thus earnestly solicited.

This application is therefore is condition for allowance. Favorable consideration and early allowance of claims 1-5 and 7 are thus earnestly solicited.

U.S. Patent Application No. 10/771,936  
Amendment dated May 3, 2005  
Reply to Office Action of November 5, 2004

If any outstanding issues remain, the Examiner is invited to telephone the undersigned at the number indicated below, before taking any further action.

Respectfully submitted,



Fran S. Wasserman  
Registration No. 34,273

Cytec Industries Inc.  
1937 West Main Street  
P.O. Box 60  
Stamford, CT 06904-0060  
Telephone (203) 321-2912  
Facsimile (203) 321-2971

Attachments:  
Petition for Extension of Time  
Terminal Disclaimer